![NASA] **Independent Verification & Validation Program**	**NASA IV&V Metrics**	**IVV 12 Version: L Effective Date: August 22, 2013**

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AUTHORITY		DATE
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REFERENCE DOCUMENTS	
Document Number	Document Title
Form 1014	Metric Approval Form
IVV QM	NASA IV&V Quality Manual
IVV 16	Control of Records
NPR 1441.1	NASA Records Retention Schedules
T2007	QMR Metrics Template
S3003	Quick Reference Guide for IV&V Metrics Analysis

If any process in this document conflicts with any document in the NASA Online Directives Information System (NODIS), this document shall be superseded by the NODIS document. Any reference document external to NODIS shall be monitored by the Process Owner for current versioning.

	NASA IV&V Metrics	**IVV 12** **Version: L** **Effective Date:** **August 22, 2013**
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1.0   Purpose

The purpose of this system level procedure (SLP) is to document the process and responsibilities for establishing, maintaining, and reporting metrics and maintaining the NASA IV&V Metrics Table. Metrics help the NASA IV&V Program achieve its strategic goals and objectives, as well as continually improve its products, processes, and services. NASA IV&V's continual improvement processes depend upon regularly updating objective performance measurements contained in the Metrics Table.

2.0   Scope

This SLP is applicable to all metrics approved for inclusion in the NASA IV&V Metrics Program.

3.0   Definitions and Acronyms

Official NASA IV&V roles and terms are defined in the Quality Manual. Specialized definitions identified in this SLP are defined below.

3.1   Metric

A metric is a measure of progress toward a specific Program, Office, or Group goal. All metrics in the scope of this SLP are contained in the Metrics Table.

3.2   Metric Owner

A Metric Owner is the individual responsible for ensuring the achievement of the goal measured by a specific metric and for reporting metric data and data analysis during each reporting period.

3.3   Metrics Analyst

The Metrics Analyst is an individual who generates, maintains and updates the Metrics Table, and provides support to the Metrics Lead in coordinating the day-to-day activities of the NASA IV&V Metrics Program.

3.4   Metrics Lead

The Metrics Lead is a NASA IV&V civil service employee who implements and manages the NASA IV&V Metrics Program. The Metrics Lead reports to the Strategic Communications Office Lead.

3.5   Metrics Package

The Metrics Package is the summary of requested additions, modifications, or deletions to metrics, which the Metrics Team sends to the MCCB ahead of a MCCB meeting.

3.6   Metrics Team

The Metrics Team is comprised of the Metrics Lead and any Metrics Analysts.

3.7   Metrics Table

The Metrics Table is a spreadsheet located on the ECM System, which contains descriptions of and data collected for each metric that has been approved for inclusion in the NASA IV&V Metrics Program. The Metrics Table is revised each quarter and updated each fiscal year via the process outlined in section 4.0.

3.8   Metrics Configuration Control Board (MCCB)

The MCCB is the group of individuals responsible for approving or rejecting additions, deletions or modifications to the metrics contained within the NASA IV&V Metrics Program. This group is comprised of the members of IV&V Senior Leadership.

3.9 Acronyms

ECM	Enterprise Content Management
IMS	NASA IV&V Management System
MCCB	Metrics Configuration Control Board
NODIS	NASA Online Directives Information System
NPR	NASA Procedural Requirements
QMR	Quarterly Management Review
SLP	System Level Procedure

4.0   Process Flow Diagrams

The following diagrams depict processes described in this document, and the responsibilities and actions of process participants or their designees. Any information supplemental to a depicted process will appear after the diagram.
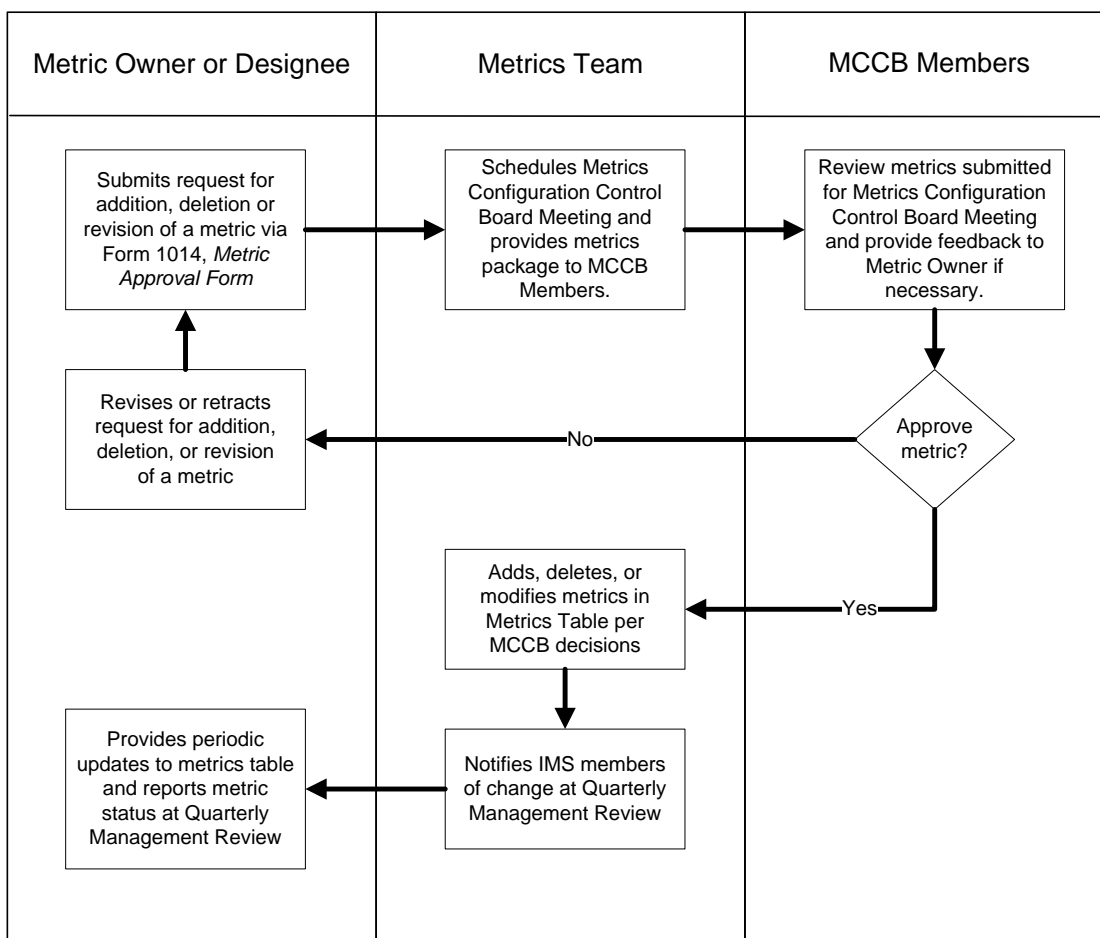
4.1   Annual Metrics Review

All metrics contained within the NASA IV&V Metrics Program will be reviewed once all office execution plans are approved for a given fiscal year. To request a new metric or the revision or deletion of an existing metric, Metric Owners will submit metrics for review by the Metrics Configuration Control Board (MCCB) to the Metrics Lead using Form

1014, *Metric Approval Form*. The Metrics Lead will schedule a meeting with the MCCB and the Metric Owners to review metrics for the upcoming fiscal year. Additions, deletions, or revisions will be approved or rejected by the MCCB at the time of the meeting.

After a request is approved, the Metrics Analyst will make the required changes to the Metrics Table located on the ECM system and changes will be highlighted at the subsequent QMR meeting.

4.2   Modifying Metrics during the Fiscal Year

To request a new metric or the revision or deletion of an existing metric during the course of the fiscal year, the request must contain all information required by Form 1014, *Metric Approval Form*.

The Metric Owner will submit metrics for review by the MCCB to the Metrics Lead using Form 1014, *Metric Approval Form*. The Metrics Lead will schedule a meeting with the MCCB and the Metric Owner to review the proposed addition, deletion or modification to the metrics. Additions, deletions, or revisions will be approved or rejected by the MCCB at the time of the meeting.

After a request is approved, the Metrics Analyst will make the required changes to the Metrics Table located on the ECM system and changes will be highlighted at the subsequent QMR meeting.

4.3   Reporting Metrics during the Fiscal Year

Metric Owners are responsible for reporting the status of their metrics in the Metrics Table and at the QMR. This reporting should take place quarterly or per the collection frequency of the metric, whichever is longer. Refer to T2007, *QMR Metrics Template*, for information that is more detailed. Metric Owners shall also report their data analysis findings along with the data itself. Refer to S3003, *Quick Reference Guide for IV&V Metrics Analysis*, for guidance on metrics analysis.

5.0   Reserved

6.0 Records

The following records will be generated or updated and filed in accordance with this SLP and IVV 16, *Control of Records*, and in reference to NASA Procedural Requirement (NPR) 1441.1, *NASA Records Retention Schedules.*

Record Name	Original	Vital	Responsible Person	Retention Requirement	Location
Metrics Table	Y	Y	Metrics Analyst	Destroy when 7 yrs old (1/26.5A)	ECM
Completed Form 1014s	Y	N	Metrics Lead	Destroy when 7 yrs old (1/26.5A)	ECM
Metrics Package	Y	N	Metrics Lead	Destroy when 7 yrs old (1/26.5A)	ECM

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VERSION HISTORY				
Version	Description of Change	Rationale for Change	Author	Effective Date
Basic	Initial Release		Stephanie Ferguson	03/23/2005
A	Changed section referenced for email instructions in Section 6.2		Stephanie Ferguson	07/08/2005
B	Updated the following: Section 4.0 modify flow to include metrics reporting at QMRs, Section 5.0 to include roles, Section 6 to provide more detail regarding analysis or metrics and QMR reporting.		Stephanie Ferguson	01/17/2006
C	Modified the flow in Section 4.0 to now include two separate flows.		Stephanie Ferguson	10/24/2006
D	Update process flow diagrams to align with Facility Management paradigm		Stephanie Ferguson	08/06/2007
E	Changed "IV&V Facility" to "IV&V Program"		Stephanie Ferguson	12/17/2008
F	Include information on the Metrics Table file path and the email address for the IMS mailing list		Stephanie Ferguson	10/20/2009
G	Updated verbiage in Section 6.0, *Records*		Sara Cain	01/12/2010
H	Updated file paths to point to the ECM; added Metric Approval Form 1014; changed annual review process		Stephanie Ferguson	01/25/2011

VERSION HISTORY				
Version	Description of Change	Rationale for Change	Author	Effective Date
I	Updated scope, definitions, process flow diagram and text for modifying metrics during FY.	PAR 2011-P-339: Under current management, IV&V metrics will be contained within one system	Keenan Bowens	10/03/2011
J	Add Metrics Owners' reporting requirements.		Keenan Bowens	03/14/2012
K	Several updates and clarifications, some are: Add Metrics Package and Metrics Team definitions; replace notifications by email with QMR meeting notifications.	Annual Document Review. More accurately reflect actual process.	Keenan Bowens	05/28/2013
L	Added supporting document S3003, *Quick Reference Guide for IV&V Metrics*, and referenced it in the text.	New supporting document	Clarence Swiger	08/22/2013